

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): Digital transmission method comprising:

coding, from a useful information item, a coded information item comprising the useful information item and at least one redundant information item,

transmitting said coded information item over a channel after said coding,

receiving said coded information item,

decoding to obtain, from the received coded information item, an estimation of said useful information item with correction of transmission errors based on said at least one redundant information item,

said coding comprises a plurality of elementary coding steps which operate in parallel or in series and are associated with at least one interleaving step,

said decoding is iterative and comprises, for each iteration, a plurality of elementary decoding steps associated with interleaving and deinterleaving steps, corresponding to said plurality of elementary coding steps associated with said at least one interleaving step, each of said elementary decoding steps receives a set of information to be decoded and generates a respective set of weighted output information items,

determining a threshold quantity characteristic of said decoding as a function of one or more configuration parameters using an adaptive algorithm,

generating a characteristic quantity from each set of said weighted output information items generated by each of said elementary decoding steps during each iteration that is characteristic of said set of weighted output information items,

comparing said characteristic quantity with said threshold quantity, and

interrupting said decoding when said characteristic quantity reaches said threshold quantity.

Claim 2 (Previously Presented): Digital transmission method according to Claim 1, wherein said generating step comprises:

calculating a quantity characteristic of a set of extrinsic information.

Claim 3 (Currently Amended): Digital transmission method according to Claim 1 wherein said generating step comprises:

calculating a statistical quantity characterizing ~~characterising~~ each set of said set of weighted output information items.

Claim 4 (Previously Presented): Digital transmission method according to Claim 3, wherein said generating step comprises:

calculating a mean of an absolute value of each set of said set of weighted output information items generated by each of said elementary decoding steps within each iteration.

Claim 5 (Previously Presented): Digital transmission method according to Claim 3, wherein said interrupting step comprises:

interrupting said decoding when said characteristic quantity is greater than said threshold quantity.

Claim 6 (Canceled).

Claim 7 (Currently Amended): Digital transmission method according to Claim 1 [[6]], wherein said determining step comprises:

determining said threshold quantity as a function of at least one configuration parameters including signal to noise ratio, size of a useful information block, elementary decoding algorithm, maximum number of iterations, and the transmission channel.

Claim 8 (Canceled).

Claim 9 (Currently Amended): Digital transmission method according to Claim 1 [[6]], wherein said determining step comprises:

using a pre-established reference table to select said threshold quantity as a function of one or more configuration parameters.

Claim 10 (Currently Amended): Digital transmission method according Claim 1 [[6]], wherein said determining step comprises:

selecting said threshold quantity based at least in part on a performance permitted by said decoding and a complexity of this decoding.

Claim 11 (Currently Amended): Digital transmission method according to Claim 1 [[6]], wherein said determining step comprises:

determining said threshold quantity as a function of a required mean transmission time.

Claim 12 (Currently Amended): Digital transmission method according Claim 1 [[6]], wherein said determining step comprises:

determining said threshold quantity as a function of a mean energy consumption.

Claims 13-24 (Canceled).

Claim 25 (Previously Presented): Digital transmission method according to Claim 1, wherein said decoding step comprises:

having inputs and outputs of said elementary decoding steps which are weighted, in terms of probabilities, likelihood ratios or log likelihood ratios.

Claim 26 (Previously Presented): Digital transmission method according to Claim 1 wherein said coding step comprises at least one puncturing step and said decoding step comprises at least one corresponding depuncturing step.

Claim 27 (New): Digital transmission method comprising:
coding, from a useful information item, a coded information item comprising the useful information item and at least one redundant information item,
transmitting said coded information item over a channel after said coding,
receiving said coded information item,
decoding to obtain, from the received coded information item, an estimation of said useful information item with correction of transmission errors based on said at least one redundant information item,
said coding comprises a plurality of elementary coding steps which operate in parallel or in series and are associated with at least one interleaving step,
said decoding is iterative and comprises, for each iteration, a plurality of elementary decoding steps associated with interleaving and deinterleaving steps, corresponding to said plurality of elementary coding steps associated with said at least one interleaving step, each

of said elementary decoding steps receives a set of information to be decoded and generates a respective set of weighted output information items,

determining a threshold quantity characteristic of said decoding as a function of one or more configuration parameters,

generating a characteristic quantity from each set of said weighted output information items generated by each of said elementary decoding steps during each iteration that is characteristic of said set of weighted output information items,

comparing said characteristic quantity with said threshold quantity, and

interrupting said decoding when said characteristic quantity reaches said threshold quantity,

wherein determining step comprises:

predefining a maximum number of iterations; and

combining a first quantity characteristic of a first set of weighted output information items generated by a last elementary decoder during a last iteration and associated with a first set of decoded information items corresponding to an error-free decoding of a set of information items to be decoded, and a second quantity characteristic of a second set of weighted output information items generated by said last decoder during said last iteration and associated with a second set of decoded information items corresponding to the decoding of said set of information items to be decoded in a case where errors remain.

Claim 28 (New): Digital transmission method according to Claim 27, wherein said combining step comprises:

calculating said first quantity characteristic and said second quantity characteristic based on statistical quantities characteristic of said first set of weighted output information items and of said second set of weighted output information items, respectively.

Claim 29 (New): Digital transmission method according to Claim 27, wherein said combining step comprises:

calculating said first quantity characteristic and said second quantity characteristic that are a mean of an absolute value of said first set of weighted output information items and a mean of an absolute value of said second set of weighted output information items respectively.

Claim 30 (New): Digital transmission method according to Claim 27, wherein said combining step comprises:

calculating using an adaptive algorithm said first quantity characteristic and said second quantity characteristic as a function of at least one configuration parameter.

Claim 31 (New): Digital transmission method according to Claim 27, wherein said first and second quantity characteristics are a function of at least one configuration parameter.

Claim 32 (New): Digital transmission method according to Claim 27, wherein said combining step comprises:

using a pre-established reference table to determine said first quantity characteristic and said second quantity characteristic as a function of at least one configuration parameter.

Claim 33 (New): Digital transmission method according to Claim 27, wherein said determining step comprises:

summing said first quantity characteristic multiplied by a coefficient α and said second quantity characteristic multiplied by a coefficient $(1-\alpha)$, the coefficient α being chosen between 0 and 1.

Claim 34 (New): Digital transmission method according to Claim 33, wherein said summing step comprises:

choosing said coefficient α based at least in part on performance permitted by said decoding and complexity of said decoding.

Claim 35 (New): Digital transmission method according to Claim 33, wherein said summing step comprises:

choosing said coefficient α as a function of a required mean transmission time.

Claim 36 (New): Digital transmission method according to Claim 33, wherein said summing step comprises:

choosing said coefficient α as a function of a mean energy consumption.

Claim 37 (New): Digital transmission method according to Claim 33, wherein said summing step comprises:

determining said coefficient α using an adaptive algorithm.

Claim 38 (New): Digital transmission method according to Claim 33, wherein said summing step comprises:

determining said coefficient α using a pre-established reference table.